

ULTRIVA Expression Evaluator Cheat Sheet

Overview

Ultriva has a built in expression evaluator which evaluates String based expressions into scalar values. The evaluator may accept variable names which are resolved at runtime in a given context to scalar value. Typically the variables are column names representing a cell value at current row.

Operations on Compatible Data Type

| Operator | Description | Notes |
|----------|---|---|
| + | Calculates the sum of two values. | If the data type is string then Concatenates the two String values. |
| - | Calculates the sum of two values. | Not applicable for string data type |
| * | Multiplies its values. | Not applicable for string data type |
| / | Divides its values. | Not applicable for string data type |
| () | Specifies that the expressions within the open parenthesis and close parenthesis are evaluated first. All other expressions are evaluated using standard operator precedence. | |

Comparison on Compatible Data Type

| Operator | Description | Notes |
|----------|--|---|
| = | Copmares two values for equality | Additional to these operators String Data Type supports LIKE , and NOT LIKE |
| <> | Copmares two values for non-equality | |
| < | Compares if the given value is less than the other value | |
| <= | Compares if the given value is less than or equal to the other value | |
| > | Compares if the given value is greater than the other value | |
| >= | Copmares if the given value is greater tha or equal to the other value | |
| AND | | |
| OR | | |

Data Types

| Type | Meaning |
|----------|--------------------------|
| LONG | Integer value |
| STRING | Text Value |
| DATETIME | Date with Timepart |
| DOUBLE | Double precision number. |
| INTERVAL | Timespan |
| BOOL | True or False |

DateTime and Interval Operations

| | |
|---------------------|----------|
| DateTime + Interval | DateTime |
| DateTime - Interval | DateTime |
| DateTime - DateTime | Interval |
| Interval + Interval | Interval |
| Interval - Interval | Interval |

Summary of Allowed Data Type Operations

| | Unary | Typecast | Binary |
|----------|-------|---------------------------------|--------------------------------------|
| long | +,- | DOUBLE, INTERVAL, BOOL | =,<>,<=,>=,>,<./,*,+,-,& |
| String | + | DOUBLE, LONG, INTERVAL,DATETIME | =,<>,<=,>=,>,<./,*,+,-,LIKE,NOT LIKE |
| datetime | +,- | | =,<>,<=,>=,>,< |
| Double | +,- | LONG, INTRVAL, BOOL | =,<>,<=,>=,>,<./,*,+,- |
| BOOL | Not | LONG, DOUBLE | =,<>,AND,OR |
| Interval | +,- | LONG, DOUBLE | =,<>,<=,>=,>,< |

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| String Functions | | DateTime Functions | | Global Variables | |
|-----------------------|---|--|--|--------------------------|------------------------------|
| LOWER | Converts all letters in the specified text string to lowercase. | YEAR | Retrns Year of the given DateTime | \$\$Now | Current Time |
| UPPER | Converts all letters in the specified text string to uppercase | MONTH | Retrns Month of the given DateTime. Jan is 1 and so on to Dec 12 | \$\$AppName | Application Name. |
| SUBSTRING | Returns subString, parameters: zero based start position (if -1 then start from the end of the String), number of character, String | DAY | Retrns Day of the given DateTime. 1 to 31 | \$\$SessionID | Current logged in Session ID |
| TRIM | Trims all heading and trailing spaces | HOUR | Returns Hour of the given DateTime. 0 to 23 | \$\$LoginName | |
| LENGTH | Returns String length | MINUTE | Minute of the given DateTime. 0 to 59 | \$\$TaskName | |
| FORMAT | Formats the given string using Format | SECOND | Second of the given DateTime. 0 to 59 | \$\$USER.<SubExpr> | |
| HEX2STR | Hexl value to String representation | FORMATDATE Formats the DateTime using specifier | | \$\$App.<AttrName> | |
| STR2HEX | String representation of Hex to Hex value | FORMATINTERVAL Formats the interval using the specifier | | \$\$Session.<ItemName> | |
| RANDOMKEY | Random Key generation | WEEKDAY | Returns the week day | \$\$usertznow | |
| TZCODE2TZDESCRIPTION | Time Zone code to Description | MONTHWEEK | Week number within the month. Week | \$\$apptznow | |
| SECPOLICY2CODE | Security Policy string to code | ADJUSTDATE Adjust Date using conditions | | | |
| SECUREENCODE | Secure Encode the string | ADDMONTHS Add Months to given datetime | | | |
| HTMLENCODE | Encode the string for safe html | FLOORDT | Retrurns DateTime with 0 timepart | | |
| LicKeyToDescription | License Key to description | CEILDt | if the time part is not 0:0:0 then round up date | | |
| TzToTzDescription | Time zone to description | Conditional Function | | | |
| REGEXMATCH | Find match using REGEX and return true or false | CASE | Case function to evaluate series of conditions | | |
| Math Functions | | Conditional Operator | | | |
| ABS | Returns the absolute value. | ? | Conditional operator | | |
| SQRT | Returns the square root value. | BPFL Functions | | | |
| FLOOR | Returns the lower bound integer. | GETENDDATE | | | |
| CEIL | Returns the upper bound integer. | GETSTARTDATE | | | |
| ROUND | Returns the upper bound integer if the fraction is >= .5 else returns lower bound. | | | | |
| | | | | Dataset Variables | |
| | | | | \$rowcount | |
| | | | | \$columncount | |
| | | | | \$name | |
| | | | | \$currentrowno | |

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| | |
|-------|--|
| MINOF | Returns the smaller of two values |
| MAXOF | Returns the greater of two values |
| ZERO | Returns 0. Used for testing. |
| SLA | The input is taken as Service Level confidence percentage. It returns the z factor that corresponds to the cumulative probability value of standard normal function that matches with the service level. For example, SLA(99) returns approx 2.35. |
| IsNaN | The isNaN() function determines whether a value is an illegal number (Not-a-Number). |

Conditional Operator Sample

`((1=2)=true)?'1 is equal to 2' !| '1 is not equal to 2'`

Aggregate Functions

| | |
|------------|-----------------------|
| SUM | Sum of numeric value |
| MIN | Minimum numeric value |
| MAX | Maximum numeric value |
| AVG | Average numeric value |
| WAVG | Weighted Average |
| COUNT(*) | Count of items |
| DISTINCT | Eliminate duplicates |
| STDDEV | Standard Deviation |
| SOX | STDDEV / Average |
| SKEW | $m3 / STDDEV ** 3$ |
| SUMPRODUCT | Sum of Product |
| SETSIZE | Size of set |

Conditional Function Sample

`Case((1=2), true, '1 is 2', false, '1 is not 2', 'unknown')`